

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

HUNTAIR, INC.,)	
)	
Plaintiff,)	
)	
v.)	
)	Civil Action No. 07 C 6890
CLIMATECRAFT, INC.,)	
)	
Defendant.)	
_____)	The Honorable David H. Coar
)	
CLIMATECRAFT, INC.,)	
)	
Counterclaim Plaintiff,)	
)	Magistrate Judge Morton Denlow
v.)	
)	
HUNTAIR, INC.,)	
)	
Counterclaim Defendant.)	

**CLIMATECRAFT, INC.’S REVISED, PROPOSED JURY INSTRUCTIONS
REGARDING CLAIM CONSTRUCTION**

As directed by the Court at the hearing on August 19, 2008, ClimateCraft, Inc. hereby submits its revised, proposed jury instructions regarding claim construction. Notwithstanding the following proposed instructions, ClimateCraft contends that the claims of the patents in suit are indefinite under 35 U.S.C. § 112 ¶ 2 for two, independent reasons.

First, each of the “control” limitations is written in functional language, and ClimateCraft has proven by a preponderance of evidence that these should be construed as “means-plus-function” limitations pursuant to 35 U.S.C. § 112 ¶ 6. This is illustrated by comparing the proposed jury instructions, which explain what is required by the claimed “control,” with the claimed structure, recited either as an “array controller” or “control system.” There is insufficient structure in the language of the claims to perform the claimed function, which is to “control” for “substantially peak efficiency” by either (a) turning off selected fan units or (b) speeding or slowing selected fan units relative to the others in the array.

If the Court finds that a preponderance of evidence proves the claims are “means-plus-function” limitations pursuant to 35 U.S.C. § 112 ¶ 6, the Court should identify the claimed function and then look for corresponding structure in the specification that performs the claimed function. Because clear and convincing evidence establishes that *there is absolutely no structure at all* in the specification that performs the claimed “control” to run the fan units “at substantially peak efficiency” by either turning fan units on and off or varying their speed relative to one another, the claims are invalid under 35 U.S.C. § 112 ¶ 2.

Second, the claim term “substantially” has no bounds, particularly as shown by Huntair’s advocated construction, and hence the limitation “substantially peak efficiency” is indefinite pursuant to 35 U.S.C. § 112 ¶ 2.

Should the Court not find at least one of these bases for invalidating the claims at this stage of the proceedings, ClimateCraft urges that the Court instruct the jury as follows regarding the scope of the claims.

PROPOSED JURY INSTRUCTION REGARDING THE SCOPE OF THE CLAIMS:

General Instructions Regarding Claim Interpretation

Before you decide whether ClimateCraft has infringed the claims of Huntair’s patents or whether Huntair’s patents’ claims are invalid, you will have to understand the patent claims. The patent claims are numbered sentences at the end of the patent. All of the patents’ claims are in dispute, beginning at column 12 of each of the patents, which are exhibits ____ in evidence. The claims are intended to define, in words, the boundaries of the invention. Only the claims of the patent can be infringed. Neither the written description, nor the drawings of a patent can be infringed. Each of the claims must be considered individually. You must use the same claim meaning for both your decision on infringement and your decision on invalidity. You should give the words in the claims their ordinary meaning in the context of the patent specification and prosecution history.

It is my job as Judge to provide to you the meaning of any claim language that must be interpreted. You must accept the meanings I give you and use them when you decide whether any claim of the patent has been infringed and whether any claim is invalid.

There are two different types of claims in the patent. One type of claim is called an independent claim. The other type of claim is called a dependent claim.

An independent claim is a claim that does not refer to any other claim of the patent. An independent claim must be read separately from the other claims to determine the scope of the claim.

A dependent claim is a claim that refers to at least one other claim in the patent. A dependent claim incorporates all of the elements of the claim to which the dependent claim refers, as well as the elements recited in the dependent claim itself.

For example, Claim 1 of the '775 Patent is an independent claim and recites several elements. Claim 2 is a dependent claim that refers to Claim 1 and includes an additional element. Claim 2 requires the fans recited in Claim 1, and also that they be plenum fans. Therefore, Claim 2 requires each of the elements of Claim 1 as well as the additional element that the fans be plenum fans.

I will now tell you the meanings of the following words and groups of words from the patent claims. The meaning of many of the terms in the claim is not in dispute, and you should give those words and phrases their ordinary English language meaning. However, so that you understand the context of the meaning of these claims, I will explain my findings to you in detail.

Instructions Specific to This Case

In determining what the claims mean, I have construed them as they would be read by a person of ordinary skill in the art at the time the patents issued. This person would be a mechanical engineer with a four-year college degree and about two years of experience in the field of designing heating-ventilation-air-conditioning (HVAC) systems.

The claims of the patents in suit all pertain to an air handler or air handling system. This is a system having components designed to work together to condition the air that ventilates buildings or other structures. Each of the claims recites an air handling compartment; this is the portion of the air handling system in which air is moved to provide the required flowrate of air to the building or other structure.

In some structures, a single fan moves the air in the air handling compartment. In others, a group of fan units working together moves the air.

One word that is central to these claims is "efficiency." The efficiency of the fan units is expressed as a ratio, often a percentage, determined by dividing the quantity of power the fan units transfer to the air by the quantity of power the fan units use while doing so. For a given speed, a fan unit will have a flow rate and corresponding pressure where its efficiency is highest. This is a single number, and it is the peak efficiency for the fan unit at that speed.

When fan units move air, the power they transfer to the air depends on two things; the rate of air flow (flowrate), often measured in cubic feet per minute (CFM), and the difference in pressure between the air entering the fan unit and the air leaving the fan unit (the pressure difference across the fans). The power delivered by the fan units to the air equals the air flowrate times the pressure difference across the fan units times a constant. Therefore, when engineers want to know the efficiency at which a fan unit is operating, they determine (a) the rate of air flow, (b) the difference in pressure between the air entering the fan unit and the air leaving the fan unit and (c) the power consumed by the fan units.

You will notice that a fan unit's efficiency differs from the fan unit's power usage or energy usage. A fan unit doing less work and using less energy than another fan unit may be running at a lower efficiency, a higher efficiency or the same efficiency as that other fan unit – you simply cannot tell without more information.

Each of the claims requires at least three fan units working together, or in parallel, to drive a flowrate of air in an air-handling system.

They also each require some sort of controller or control system that controls the fan units to run at substantially peak efficiency. Generally, this requires that the controller or control system compare the efficiency at which the fan units are operating to the peak efficiency for those fan units. To do this, the controller must either be told or determine what the peak efficiency is for that fan unit. It must then determine the efficiency at which the fan units are running, which requires it to determine (a) the flowrate of air being driven by the fan units, (b) the pressure difference across the fan units against which the air is being driven, and (c) the power supplied to the fan units. Then, it must determine a strategy for getting the fan units to operate at substantially peak efficiency. For some claims, the strategy requires determining which fans to turn on or off, when to turn them on or off and how many to turn on or off. For other claims, the strategy requires determining which fans to speed or slow relative to the others, when to speed or slow them relative to the others and how many to speed or slow relative to the others. Whichever strategy is required, the controller then must send a signal to the fan units so they respond according to that strategy.

Because the details differ for each claim, I will give you separate instructions for each of the independent claims. Use these instructions not only to apply the independent claims, but to apply the dependent claims, as well.

Turning now to Claim 1 of the '775 Patent, this claim requires all of the following to be present. There must be a fan array fan section in an air-handling system. The fan array must include at least six fan units located in an air handling compartment and arranged to work together. The claimed array controller is a device that automatically controls the array and must cause the fan units to run at substantially peak efficiency. To do this, the array controller must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two.

Turning now to Claim 16 of the '775 Patent, this claim requires all of the following to be present. There must be a fan array fan section in an air-handling system. The fan array must include at least three fan units located in an air handling compartment and arranged to work together. The fan units must be independently controllable and have an inlet cone, a fan, and a motor. The claimed array controller is a device that automatically controls the array and must cause the fan units to run at substantially peak efficiency. To do this, the array controller must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two. In addition to this, each of the fan units has to have a fan wheel diameter of a size such that the space between the fan units is less than 60% of the fan wheel diameter.

Turning now to Claim 1 of the '046 Patent, this claim requires all of the following to be present. There must be a fan array fan section in an air-handling system. The fan array must include at least three fan units located in an air handling compartment and arranged to work together. The air-handling compartment must be associated with a structure (such as a building) so that the air-handling system conditions the air of the structure. The claimed control system must automatically control at least the array and must cause the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak

efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two.

Turning now to Claim 15 of the '046 Patent, this claim requires all of the following to be present. There must be a fan array fan section in an air-handling system. The fan array must include at least three fan units located in an air handling compartment and arranged to work together. The air-handling compartment must be associated with a structure (such as a building) so that the air-handling system conditions the air of the structure. The claimed control system must automatically control at least the array and must cause the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine which fans to speed or slow relative to the others so they run at substantially peak efficiency. Third, it must send a signal to the selected fan units to speed or slow them relative to the others according to the strategy it determined in step two.

Turning now to Claim 19 of the '046 Patent, this claim requires all of the following to be present. There must be a fan array fan section in an air-handling system. The fan array must include at least three independently controllable fan units located in an air handling compartment and arranged to work together. The air-handling compartment must be associated with a structure (such as a building) so that the air-handling system conditions the air of the structure. The claimed control system must automatically control at least the array and must cause the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine which fans to speed or slow relative to the others so they run at substantially peak efficiency. Third, it must send a signal to the selected fan units to speed or slow them relative to the others according to the strategy it determined in step two.

The Independent Claims, as Reproduced, and a Glossary of Terms to Use:

I will now give you the language of the independent claims, and a glossary of terms as I have defined them to be understood by a person of ordinary skill in the art at the time the patents issued.

Claim 1, '775 Patent

A fan array fan section in an air-handling system comprising:

- (a) at least six fan units;
- (b) said at least six fan units arranged in a fan array;
- (c) an air-handling compartment within which said fan array of fan units is positioned; and

(d) an array controller for controlling said at least six fan units to run at substantially peak efficiency by strategically turning selective ones of said at least six fan units on and off,

wherein each fan unit has a peak efficiency operating range outside of which it operates at a reduced efficiency, and wherein said array controller is programmed to operate said at least six fan units at substantially peak efficiency by strategically turning off at least one fan unit operating at reduced efficiency and running the remaining fan units within said peak efficiency operating range.

Claim 16, '775 Patent

A fan array fan section in an air-handling system comprising:

- (a) a plurality of independently controllable fan units, each fan unit comprising an inlet cone, a fan, and a motor;
- (b) said plurality of fan units arranged in a fan array;
- (c) an air-handling compartment within which said fan array of fan units is positioned;

(d) an array controller for controlling said plurality of fan units to run at substantially peak efficiency by strategically turning selective ones of said plurality of fan units on and off; wherein

(e) each of said plurality of fan units has a fan wheel diameter, wherein spacing between said plurality of fan units is less than 60% of said fan wheel diameter.

Claim 1, '046 Patent

A fan array fan section in an air-handling system comprising:

- (a) an air-handling compartment;
- (b) a plurality of fan units;
- (c) said plurality of fan units arranged in a fan array;
- (d) said fan array positioned within said air-handling compartment;
- (e) said air-handling compartment associated with a structure such that said air-handling system conditions the air of said structure; and
- (f) a control system for operating said plurality of fan units at substantially peak efficiency by strategically turning on and off selective ones of said plurality of fan units.

Claim 15, '046 Patent

A fan array fan section in an air-handling system comprising:

- (a) an air-handling compartment;
- (b) a plurality of fan units;
- (c) said plurality of fan units arranged in a fan array;
- (d) said fan array positioned within said air-handling compartment;
- (e) said air-handling compartment association with a structure such that the said air-handling system conditions the air of said structure; and
- (f) a control system for controlling said plurality of fan units, said control system allowing control of the speed of the fan units in said plurality of fan units such that they run at substantially peak efficiency.

Claim 19, '046 Patent

A fan array fan section in an air-handling system comprising:

- (a) an air-handling compartment;
- (b) a plurality of independently controllable fan units;
- (c) said plurality of fan units arranged in a fan array;
- (d) said fan array positioned within said air-handling compartment;
- (e) said air-handling compartment associated with a structure such that the said air-handling system conditions the air of said structure; and
- (f) a control system for controlling the speed of the fan units in said plurality of fan units such that they run at substantially peak efficiency.

Glossary of Claim Terms

Claim Term (claims in which it appears)	Definition
fan array (all claims)	three or more fan units arranged to work in parallel
efficiency (all claims)	a ratio, determined by dividing the quantity of power the fan units transfer to the air by the quantity of power the fan units use while doing so
peak efficiency (all claims)	a single number, the maximum efficiency for a fan unit
an array controller for controlling said at least six fan units to run at substantially peak efficiency by strategically turning selective ones of said at least six fan units on and off (Claim 1, '775 Patent)	a device that automatically controls the array and must cause the fan units to run at substantially peak efficiency. To do this, the array controller must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two.

an array controller for controlling said plurality of fan units to run at substantially peak efficiency by strategically turning selective ones of said plurality of fan units on and off (Claim 16, '775 Patent)	a device that automatically controls the array and causes the fan units to run at substantially peak efficiency. To do this, the array controller must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two.
a control system for operating said plurality of fan units at substantially peak efficiency by strategically turning on and off selective ones of said plurality of fan units (Claim 1, '046 Patent)	a device that automatically controls at least the array and causes the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine a strategy for turning selective ones of the fan units on and off so that the fan units run at substantially peak efficiency. Third, it must send a signal to the selected fan units to turn them on or off according to the strategy it determined in step two.
a control system for controlling said plurality of fan units, said control system allowing control of the speed of the fan units in said plurality of fan units such that they run at substantially peak efficiency (Claim 15, '046 Patent)	a device that automatically controls at least the array and causes the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine which fans to speed or slow relative to the others so they run at substantially peak efficiency. Third, it must send a signal to the selected fan units to speed or slow them relative to the others according to the strategy it determined in step two.
a control system for controlling the speed of the fan units in said plurality of fan units such that they run at substantially peak efficiency (Claim 19, '046 Patent)	a device that automatically controls at least the array and causes the fan units to run at substantially peak efficiency. To do this, the control system must either be told or determine what the peak efficiency is for that fan unit. It must then do three things. First, it must determine the efficiency at which the fan units are operating and compare that value to the peak efficiency for the fan units. Second, it must determine which fans to speed or slow relative to the others so they run at substantially peak efficiency. Third, it must send a signal to the selected fan units to speed or slow them relative to the others according to the strategy it determined in step two.

The foregoing is submitted as ClimateCraft's proposed instructions to the jury on claim construction issues, as required by the Court at the hearing on August 19. The undersigned has read the transcript of the Court's directive, and particularly noted the guidance provided beginning at 2:7, 27:18 and 45:12, and the foregoing is offered in compliance therewith.

Respectfully submitted,

Dated: August 26, 2008

/s/ Charles C. Kinne

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing
**CLIMATECRAFT, INC.'S REVISED, PROPOSED JURY INSTRUCTIONS REGARDING CLAIM
CONSTRUCTION** was served by ECF upon:

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this 26th day of August, 2008.

/s/ Charles C. Kinne
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